CLAIMS

1. An external forceps channel device for an endoscope, provided with an external forceps channel which is capable of being repeatedly inserted and extracted in a way of being guided by a guide provided on an endoscope separately and independently therefrom along an outside of an insertion portion of the endoscope while using the endoscope without drawing it out, the endoscope incorporating an air supply path, a light source, a CCD camera, and a forceps channel and including the insertion portion and an maneuvering portion, characterized in that provided is the external forceps channel capable of repeatedly extracting a foreign substance larger than a bore diameter of the incorporated forceps channel in a way of being guided by the guide along the outside of the endoscope, together with the whole external forceps channel itself in a state where the foreign substance is grasped by forceps inserted through the external forceps channel, and that provided is the external forceps channel capable of being repeatedly inserted in a way of being guided by the guide along the outside of the endoscope in a state where the endoscope is not drawn out.

2. The external forceps channel device for an endoscope according to claim 1,

wherein the external forceps channel device for an endoscope is an external forceps channel device capable of being slidably fitted along the outside of the insertion portion of an existing endoscope, and

wherein detachable notched ring-shaped fitting pieces are provided on an outer peripheral surface of the insertion portion at given intervals; a linear member having flexibility and elasticity is fixed to one end side of the fitting pieces to interconnect the fitting pieces; a tube having flexibility with a cross-section of a C-shape is fixed to the other end side of the fitting pieces in parallel with the linear member to interconnect the fitting pieces; and the external forceps channel connected with a rod guide portion that is slidably insertable into and detachable from the C-shaped-cross-section tube is

provided in the C-shaped-cross-section tube.

3. The external forceps channel device for an endoscope according to claim 2,

wherein the linear member is any of a tension coil spring with no hook on either end and a rod member made of thermoplastic resin having flexibility and elasticity such as a nylon material.

4. The external forceps channel device for an endoscope according to claim 2 or 3,

wherein a guide ring fitted on a tip of the external forceps channel device for an endoscope is formed into a shape having a protruded center; a guide portion is formed by cutting the guide ring obliquely from a tip toward a base portion thereof; and a positioning cap formed to match with the shape of the guide portion is fitted on a tip of the insertion portion of the endoscope, and

wherein the guide ring on the tip of the external forceps channel device for an endoscope is positioned by aligning the guide ring on the tip of the device with the positioning cap fitted on the tip of the endoscope, at the tip of the endoscope when the external forceps channel device for an endoscope is inserted.

5. The external forceps channel device for an endoscope according to claim 1,

wherein the external forceps channel for the endoscope is provided either in such a manner that a groove having a cross-section of a C-shape is provided along a surface of the insertion portion of the endoscope in its longitudinal direction, and the external forceps channel connected with a rod guide portion which is insertable into and detachable from the C-shaped-cross-section groove while sliding therealong, is provided, or in such a manner that a protruding guide member is provided along the surface of the insertion portion of the endoscope in its longitudinal direction, and the external forceps channel connected with the rod guide portion which

is insertable into and detachable from the guide member while being guided by the guide member, is provided.

6. The external forceps channel device for an endoscope according to claim 1 or 5,

wherein the external forceps channel for the endoscope is an external forceps channel one side of which is connected with the rod guide portion that is insertable into any of the C-shaped-cross-section groove and the protruding guide member and slidably insertable into and detachable from the cross-section of any of the C-shaped-cross-section groove and the protruding guide member, and

wherein a guide wire as a core is provided in a central portion of the rod guide portion.

7. The external forceps channel device for an endoscope according to claim 5 or 6,

wherein, for the external forceps channel for the endoscope, an open portion of any of the C-shaped-cross-section groove and the protruding guide member is formed to have an elastic constrictive structure to prevent the external forceps channel from protruding out, the external forceps channel being connected with the rod guide portion slidably inserted into any of the C-shaped-cross-section groove and the protruding guide member.

8. The external forceps channel device for an endoscope according to claim 1,

wherein the external forceps channel device for an endoscope adopts a structure in which a tunnel is provided immediately under a surface of the insertion portion of the endoscope along the surface in its longitudinal direction; a freely movable magnetic body is provided in the tunnel; another magnetic body is also provided at a bottom portion of a tube through which forceps are inserted along the outside of the insertion portion of the endoscope; and when inserting the external forceps channel device, the device is inserted while being guided by the movable magnetic body.

9. The external forceps channel device for an endoscope according to claim 5 or 6,

wherein, for the external forceps channel for the endoscope, a cross-section of the guide portion connected with the external forceps channel is formed into a C-shape, and a rail is provided in any of the C-shaped-cross-section groove and the protruding guide member which are to be engaged with the C-shaped-cross-section guide portion.